

### IN THE SPECIFICATION

On page 7, please replace the third full paragraph, beginning on line 22, as follows:

In particular, a light source device for optical communications, grown over a semiconductor substrate 10 like the InP, is prone to degradation due to a ~~big~~ large gain drop with an increase in the temperature. However, the semiconductor optical device of the present invention has excellent heat dissipation, thus solving this device of the present invention has excellent heat dissipation, thus solving this problem. Further, if the semiconductor optical device of the present invention is used in a laser device, because the recess 15 is filled with the oxide layer, nitride layer or a combination of them 18, a difference in the refractive index between a light-emitting core region and an adjacent cladding region can be reduced. As a result, a transverse mode characteristic of laser light can be improved.